medical resource use, impact on productivity for both patients and carers, and detrimental effects on education and careers.

PRS36
CONTENT VALIDITY OF TWO SYMPTOM QUESTIONNAIRES FOR IDIOPATHIC PULMONARY FIBROSIS
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OBJECTIVES: Idiopathic Pulmonary Fibrosis (IPF) is a rare, irreversible and eventually fatal fibrosing lung disease. Cough and dyspnea are major symptoms. The study objective was to assess the content validity of the Cough and Sputum Assessment Questionnaire (CASA-Q) cough domains and the UCSD Shortness of Breath Questionnaire (SOBQ), instruments developed for use in chronic obstructive pulmonary disease, when used in patients with IPF. **METHODS:** Cross-sectional, qualitative study with cognitive interviews in patients with IPF. Study outcomes included relevance, comprehension of item meaning, understanding of the instructions, recall period, response options, and concept saturation. **RESULTS:** Interviews were conducted with 18 patients. The mean age was 68.9 years (SD 11.9), 78% were male and 89% were Caucasian. The mean time since IPF diagnosis was 2.4 years (SD 1.6). Most participants (89%) found the CASA-Q cough domain items to be highly relevant to their condition. The intended meaning of the items was clearly understood by most of the participants (89-100%). All participants understood the CASA-Q instructions; the correct recall period was reported by 89% of the patients, and the response options were understood by 76%. Most participants (83%) reported positive feedback for the SOBQ; those who did not were symptom free and hence had no limitation in activities to report. The intended meanings of the items were relevant and clearly understood by all participants. Participants understood the instructions (83%) and all patients understood the response options. The recall period produced varying responses, based on the type of activity performed. No concepts were missing, suggesting that saturation was demonstrated for both measures. **CONCLUSIONS:** Content validity and saturation for the CASA-Q cough domain and SOBQ was established with items perceived as relevant to measure symptoms of IPF. The results of this study support the use of these instruments in IPF clinical trials.

PRS37
QUALITY OF LIFE IN PAEDIATRIC ASTHMA FROM PATIENT AND THEIR PARENTS PERSPECTIVE
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OBJECTIVES: To evaluate disease-specific quality of life (QoL) in children with asthma according to patients' and their parents' perspective. **METHODS:** Hungarian version of the *Standardised Paediatric Asthma Quality of Life Questionnaire* ($PAQLQ_{(s)}$) and the *Paediatric Asthma Caregiver's Quality of Life Questionnaire* (PACQLQ) were completed. The minimal important difference in the PAQLQ total score is 0.5 on the 7-point Likert scale, higher scores indicate better QoL. Asthma control was assessed by *Asthma Control Questionnaire* (ACQ); Forced Expiratory Volume in 1 second (FEV1) was measured via spirometry. **RESULTS:** A total of 125 children (7-17 years of age) and their caregivers completed the questionnaires. Overall PAQLQ score was 5.74+0.97, overall PACQLQ score was 5.32+1.22 (r=0.83), mean ACQ score was 1.65+0.8 and mean FEV_1 was 100.71+14.91. PACQLQ scores were statistically (p=0.001) and clinically significantly lower, than PAQLQ scores. Correlations between FEV_1 and overall score of $PAQLQ_{(s)}$ (r=-0.15) and overall PACQLQ score (r=-0.005) were weak and not significant. The association between ACQ and total score of $PAQLQ_{(s)}$(r=-0.64, p=0.01) was moderate. **CONCLUSIONS:** Our participants had poor asthma control despite their good lung function. Weak relationship was found between spirometry and QoL according to patients' and caregivers' opinion; however QoL correlated only moderately with the level of asthma control. PAQLQ is able to detect small but clinically important changes that children experience as a result of the treatment or as a part of the natural fluctuation of their asthma, it provides additional valuable information for clinical practice; children aged over 7 can provide reliable data on their Qol, where as parents often do not rate their children's Qol appropriately.

PRS38
TURKISH CULTURAL ADAPTATION AND VALIDATION OF SMOKING CESSATION QUALITY OF LIFE (SCQOL) QUESTIONNAIRE
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OBJECTIVES: The Smoking Cessation Quality of Life (SCQoL) questionnaire assesses the change in well-being and functioning associated with smoking cessation. The SCQoL includes 14 questions. This study aims to adapt the SCQoL into Turkish language and culture and, check the reliability and validity of the inventory culturally. **METHODS:** The original instrument was forward then back-translated by two independent translators. A small sample consisting of 42 people was used to check the initial comprehension and convenance. Cronbach's Alpha was used to assess reliability and factor analysis to assess dimensionality. The Euro-Qol-5D questionnaire and corresponding Visual Analogue Scales were used for concurrent validity. **RESULTS:** A total of 152 people participated in this study. 55.9% of them were female, 44.1% of them being male. Mean age was 24.3. The internal consistency coefficient (Cronbach's alpha) of SCQoL was 0.771. Factor analysis of the scale revealed that it was composed of four factors and accounting for 67% of the total variance. Correlations were moderate with EuroQol and VAS. **CONCLUSIONS:** The culturally adapted to Turkish SCQoL has good validity and reliability, making it a potentially useful outcome measure in determining the effect of quality of life of people in Turkey.

PRS39
PREFERENCE AND WILLINGNESS TO PAY FOR A TREATMENT OF PULMONARY ARTERIAL HYPERTENSION
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OBJECTIVES: Pulmonary arterial hypertension (PAH) is a chronic, debilitating disease characterized by an increase in blood pressure in the pulmonary arteries and is associated with a burdensome low tolerance to exercise. Treprostinil is indicated in the treatment of PAH in patients with New York Heart Association Class II-IV symptoms and is available in one of two forms: infused or inhaled. The present study determined the preference among members of the general public for one treatment delivery option over the other, as well as the willingness-to-pay (WTP) for the inhaled option. **METHODS:** An online survey of members of the general public, 18 years of age or older, in the province Ontario, Canada, was conducted by presenting descriptive and clinical information on each treatment delivery option, ascertaining the participants' preference for one option over the other, and, by inviting participants who opted for the inhaled form to take part in a bidding game evaluating their WTP in terms of additional monthly insurance premiums to ensure that inhaled treprostinil would be covered by a hypothetical insurance scheme. Descriptive statistics and sub-group analyses based on demographic characteristics were calculated with regards to preference and WTP. **RESULTS:** The recruited population was more likely to be female, younger and with a higher yearly household income, when compared to the population of Ontario. Of the 386 survey participants, 85.8% preferred the inhaled treatment option, with no significant differences in terms of preference observed across age or gender. The observed median (minimum, maximum, mode) and mean (95% confidence interval) WTP in monthly insurance premiums were CAD21.50 (CAD0, CAD200, CAD50) and CAD37.25 (CAD32.51, CAD41.99), respectively; sub-group analyses based on gender, age or yearly household income yielded no significant differences. **CONCLUSIONS:** Inhaled treprostinil appears to be preferred over infused treprostinil and is associated with relatively high WTP for insurance premiums.

RESPIRATORY-RELATED DISORDERS - Health Care Use & Policy Studies

PRS40
ARE DISEASE MANAGEMENT PROGRAMS FOR COPD COST-SAVING?
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OBJECTIVES: Pharmaceutical companies are increasingly shifting from a product-centered to a customer and service-centered culture and many companies have developed disease management programs for illnesses like asthma, COPD, diabetes, arthritis, depression etc. Such programs come in all shapes and sizes and their main aim is to improve the quality of care are reduce hospital costs. However, there is insufficient evidence of cost-effectiveness of disease management programs. Aim: The aim of this study is to review the impact of COPD disease management (COPD-DM) programs on health care costs and outcomes. We also investigated the impact of disease-, intervention-, and study-characteristics. **METHODS:** We conducted a systematic review of cost-effectiveness studies of COPD-DM. The results were grouped by study, intervention and disease characteristics and, where feasible, included in a random-effects meta-analysis. **RESULTS:** We included 16 papers describing 11 studies. The meta-analysis showed that COPD-DM decreased the RR of hospitalizations (RR: 0.71 [95CI: 0.53-0.96]), and led to a reduction of hospitalization costs (€1093 [95CI: €2052-€133]) and average health care savings were €922 [95CI: €1549-€295] per patient. These savings have to be weighed against the costs of developing, implementing and managing the DM program. There was substantial heterogeneity. DM showed greater savings in hospital costs in studies including severe COPD patients (GOLD stage 3+). Savings were also greater when COPD-DM programs addressed 3 or more components of the Chronic Care Model and in studies from non-EU origin. **CONCLUSIONS:** DM decreased the risk of hospitalization and health care costs (excluding program costs), but results varied by study-, intervention-, and disease-characteristics. Future studies should more explicitly include the overhead costs of running these DM programs.

PRS41
CHARACTERISTICS AND DETERMINANTS OF PALIVIZUMAB USE IN THE NETHERLANDS
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OBJECTIVES: Respiratory Syncytial virus (RSV) is the leading cause of respiratory tract infections. Efficacy of Palivizumab in reducing RSV related hospitalizations has been proven in preterm born infants and children with congenital heart disease (CHD) or bronchopulmonary dysplasia (BPD). However, the high costs of Palivizumab may limit its use. This study described the characteristics of Palivizumab users in the Netherlands and assessed the determinants of receiving Palivizumab among infants with an indication according to the label. **METHODS:** Data for this study were obtained by linking the PHARMO database network, which includes detailed information on drug dispensing and hospitalization histories, and The Netherlands Perinatal Registry, including perinatal medical case records.

From this linked cohort, all infants born between April 1, 1999 and March 31, 2007 were selected and characteristics of those receiving Palivizumab were described. Among infants with an indication to receive Palivizumab (i.e. born <35 weeks, CHD or BPD), recipients were compared with non-recipients and determinants of receiving Palivizumab were examined using logistic regression analyses. **RESULTS:** Among the 3321 infants with an indication to receive Palivizumab, only 15% were recipients. The majority was born <32 weeks of gestation and mean age at first use was 3.1 months. The strongest predictor of receiving Palivizumab was being born <32 weeks (OR 49.1; 95%CI 31.5-76.4). However, among the infants born <32 weeks, still 50% did not receive Palivuzmab. Subanalyses among this group showed that the likelihood of receiving Palivizumab was higher for infants born in later years, having respiratory distress syndrome or being hospitalized in the RSV season. **CONCLUSIONS:** In the Netherlands, Palivizumab is mostly prescribed to infants born <32 weeks, which is according to Dutch guidelines. Use has increased over the years. However, not all children addressed in the label indication are receiving Palivizumab.

PRS42

CURRENT POSITION OF ICS/LABA COMBINATION THERAPY IN ASTHMA AND COPD IN PRIMARY AND SECONDARY CARE IN GERMANY – DELPHI CONSENSUS RESEARCH

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OBJECTIVES: Information on the implementation of national (NVL) and international guidelines (GINA and GOLD) for asthma and COPD in German clinical practice is limited. **METHODS:** Research on inhaled corticosteroid/long-acting β_2-agonists (ICS/LABA) in asthma and COPD in Germany was conducted by a modified Delphi Process with a panel of physicians (six GPs and four pulmonologists) to produce 25 consensus statements. **RESULTS:** Three consensus statements provide insight into current controversies on ICS/LABA use in German clinical practice. Consensus on the statement "Early initiation onto ICS/LABA therapy can improve asthma control and help reduce the rate of exacerbations for patients with persistent asthma who are not sufficiently controlled", suggests that this is current clinical practice in Germany, consistent with GINA, rather than with the NVL recommendation of doubling the ICS dose. The panel agreed that stepping down LABA in established ICS/LABA therapy, would lead to loss of control and/or worsening of symptoms in around 50% of patients. It was agreed that by early initiation of ICS/LABA in uncontrolled asthma 70–80% of health care resource utilisation could be avoided. Another statement: "A typical patient that should be initiated on ICS/LABA has moderate to severe COPD, suffers from symptoms and experiences exacerbations" suggests that clinical practice among German physicians anticipated the 2011 GOLD guideline, in which initiation of a fixed ICS/LABA combination is based on combined assessment of COPD severity including exacerbation history and the presence of symptoms. The panel estimated that timely initiation of ICS/LABA therapy in COPD patients could prevent 10–40% of unscheduled visits (hospitalisations, emergency room and physician visits). **CONCLUSIONS:** The results of this research suggest that early initiation of ICS/LABA therapy could substantially reduce unscheduled treatment costs in asthma patients, and that timely introduction of LABA/ICS therapy for COPD patients could substantially reduce both unscheduled treatment and hospitalisation costs.

PRS43

BUDGET IMPACT ANALYSIS OF INDACATEROL IN THE TREATMENT OF COPD IN A FINNISH HOSPITAL DISTRICT

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OBJECTIVES: Chronic Obstructive Pulmonary Disease (COPD) is a major public health problem. It is often under-diagnosed and undertreated. Prevalence of COPD is strongly correlated with smoking habits but it affects non-smokers (including ex- and passive smokers) also. Early and effective treatment can reduce health care resource use by decreasing the severity and number of exacerbations. Indacaterol is an "ultra"-long-acting β_2-agonist indicated for long-term maintenance bronchodilator treatment of airflow obstruction in patients with COPD. **METHODS:** We estimated the prevalence of COPD, and the incidence of exacerbations in a single hospital district with 200,000 inhabitants (Etelä-Pohjanmaa) in one year. Population-based data and smoking habits were utilized. Published indacaterol data were used to estimate the incidence and severity of exacerbations w/wo medication. Health care resource use was included from both primary and secondary health care. **RESULTS:** The estimated number of COPD patients in the hospital district was 13,700 (prevalence 6.85%, out of which 49% were currently non-smokers and 42% in working age). The patient population potentially benefiting from treatment (GOLD stages I-IV), was estimated to be 12,000 (87.6% of all COPD-patients). Within one year, without medication the number of expected exacerbations was 8,634, 3% of them were severe (needing hospitalization). Applying data from published indacaterol trial, 31% of exacerbations could be avoided by medical treatment. This can lead to a reduction of inpatient days by 800, and outpatient visits by 2,555 among this patient population in this hospital district. **CONCLUSIONS:** Based on the model, in this hospital district, COPD affects almost 7% of the population. In addition to elderly heavy smokers, health care workers should be aware of the large working age non-smoking population with possibility of having COPD. Early detection and effective treatment of COPD may decrease the number of exacerbations and consequently reduce the use of health care resources.

PRS44

THE IMPACT MADE BY THE CONTINUITY OF CARE FOR COPD PATIENTS ON HEALTH OUTCOMES AND MEDICAL COST IN KOREA, ACCORDING TO THE NATIONAL HEALTH INSURANCE DATABASE

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OBJECTIVES: To assess continuity of care and to examine any association between continuity of care and health outcomes (hospitalization, emergency department visits, deaths and medical costs in Korea. **METHODS:** This was a retrospective cohort study using the Korea National Health Insurance Claim Database. Patients, >40 years of age, who were diagnosed with COPD in 2007 (n=49,635) were monitored for four years, until 2010. **RESULTS:** As continuity of care increased, the risks of hospitalization, emergency department visits, and deaths decreased, as did medical costs. Also, variables that had significant affects on continuity level for COPD patients were gender, age, experience of hospitalization, frequency of ambulatory visits, number of institution visited, the type of the main clinics attended, and Charlson's score. The correlation analysis regarding continuity levels and odds ratios of health outcomes for COPD patients produced the following results. In comparison between the first quartile group and the fourth quartile group of COC, the fourth quartile group had higher rate of hospitalization by 1.61 (95% CI: 1.51-1.72), a higher emergency department usage by 1.53 (95% CI: 1.41-1.67), and an increased death rate by 1.26 (95% CI: 1.02-1.56). The odds of fourth quartile belonging to the high costing group were also higher than first quartile (OR=1.54, 95% CI: 1.44-1.64). The associations of COC with health outcomes and costs were stronger when analysing patients visiting a primary institution, as their main attending medical institution. **CONCLUSIONS:** As a result, it is proven that improving the continuity level reduces the risk of hospitalization, ER visits, deaths and medical costs in COPD patients. Therefore, policy makers needs to develop and actively move forward the program to improve the continuity level of care in patients with COPD, especially for the patients using the primary health care service.

PRS45

HEALTH OUTCOMES AND COSTS OF PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE ACCORDING TO THE CONTINUITY OF AMBULATORY CARE WITH KOREAN NATIONAL HEALTH INSURANCE DATABASE

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OBJECTIVES: To assess continuity of care and to examine any association between continuity of care and health outcomes (hospitalization, emergency department visits), also effects on medical costs. **METHODS:** This was retrospective cohort study using the Korea National Health Insurance Claim Database. Patients, >40 years of age, who were first diagnosed with COPD in 2008 (n=34,249) were monitored for the following 2 years at specific index dates. **RESULTS:** The mean of the COC was 0.9197±0.1859 retrospectively. As the continuity of care increased, the risks of hospitalization and emergency department visits decreased, along with medical costs. Also, variables that have significant affects on continuity level for COPD patients were gender, age, experience of hospitalization, frequency of ambulatory visits, number of institution visited, type of the main attended clinic, the first attending medical institution, and Charlson's score. The correlation analysis on the continuity levels, and hazard ratios of health outcomes showed the following results. Comparing the continuity group by COC, the non-continuity group had higher rate of hospitalization by 1.70 (95% CI: 1.54-1.87) and an increased emergency department usage by 1.70 (95% CI: 1.46-1.99). The risk of non-continuity group belonging to the high costing group were also higher than the continuity group (OR=1.54, 95% CI: 1.44-1.64). The associations of COC, with health outcomes and costs, were stronger when analysing patients visiting primary institution as opposed to attending main medical institutions. **CONCLUSIONS:** As a result, it is proven that to improve continuity level, one needs to reduce the risk of deteriorated condition and medical costs in COPD patients. Therefore, the policy makers need to develop and try actively to alter the program to improve the continuity level of care in patients with COPD, especially for the patients using primary health care service.

PRS46

HEALTH CARE RESOURCE USE OF PATIENTS WITH CYSTIC FIBROSIS (CF) IN THE UK

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OBJECTIVES: To document real world management and resource use for patients with CF. **METHODS:** Retrospective, medical chart review in eight CF centres in UK. A stratified random sample of charts was selected from the cohort of patients ≥6 years of age with a diagnosis of CF caused by genotypes G551D or DF508 homozygous. The study period covered the most recent two years of complete data. Patient and clinical characteristics, health care resource and drug usage were extracted. Categorical variables were described as number and proportion of patients and continuous variables were summarised using descriptive statistics. **RESULTS:** Data for 200 patients (50% female, mean age 19.5) were reviewed, with N=63 (32%) having G551D genotype. Severity distribution measured using FEV_1% was: <40%=27, ≥40% and <70%=69 and ≥70%=96 patients respectively. Twenty different health care professional types provided care. Nearly all patients (N=199) had a clinic visit (mean=15.2 per patient, SD=9.1, median=13), and 23% (N=45) having an emergency visit (mean=2.4 per patient, SD=2.2, median=2). For drug usage, IV antibiotics (73.5%, N=147), nebulised therapy (87.0%, N=174), and mucolytic treatment (74.5%, N=149) were frequently used. Pancreatic enzyme treatment was used by